BREAST FEEDING FROM A PUBLIC HEALTH STANDPOINT

E. J. HUENEKENS, A.B., M.D.

Assistant Professor of Pediatrics, University of Minneapolis, and Medical Director of Minneapolis Infant Welfare Society

Read before the Child Hygiene Section of the American Public Health Association at the Fifty-second Annual Meeting at Boston, Massachusetts, October 11, 1923.

IT IS a truism that public health is purchasable, but the time has come when we must balance our budgets and decide which divisions of public health are paying dividends. We must begin to place public health on an efficiency basis and figure out how much in preventive mortality and morbidity we are getting for our money. If we find that a disease with an extremely high death rate, such as pneumonia, does not, in the present state of our knowledge, readily lend itself to preventive work then we must retrench in this particular department and expend our money and effort in more profitable fields. If we look at public health from this business-like standpoint we cannot fail to rank the promulgation of breast feeding education as one of our best investments. To prove the truth of this statement will be the object of this paper. I shall endeavor to demonstrate two theses—first, that increased breast feeding dramatically reduces infant mortality; second, that the breast feeding education plan inaugurated in Minneapolis definitely increases breast feeding.

For years there have been loose statements made concerning the relative mortality in breast fed and artificially fed infants, but, until recently there has been scant statistical evidence to support this. However, a recent study by the Children's Bureau at Washington, has remedied this defect. This statistical study comprised 22,422 live-born infants in eight American cities and a preliminary study of these figures has recently been published.[1]

Table No. 1 shows that the infant mortality in artificially fed infants is between three and four times as high as among breast fed infants.

Woodbury has carefully analyzed these figures and has shown that even after deducting the unusually large numbers of prematures and twins from the artificially fed group and after making due allowance for the economic circumstances of families, the relative proportions are not markedly changed. He summarizes the work as follows:

"The analysis has shown that artificial feeding as actually practiced in typical city populations, is associated with a mortality between three and four times as high as the mortality among breast fed infants. This excess mortality is not to be explained either by the slight overweighting of the group of artificially fed with infants in certain groups characterized by high mortality rates; and it appears in all nationalities and in all earnings groups, though with variations depending probably upon the particular conditions prevailing in these groups."

1. The Relation Between Breast Feeding and Artificial Feeding and Infant Mortality. Robert M. Woodbury, Amer. Jour. Hygiene, Vol. 2, No. 6, 1922, p. 668.

TABLE NO. 1.

MONTHLY MORTALITY RATES, BY TYPE OF FEEDING; INFANTS IN EIGHT CITIES

Month of life	Monthly probability of dying per 1,000 infants			
	All types of feeding	Exclusively breast-fed	Partly breast-fed	Exclusively artificially fed
First	44.8	16.9	36.4	54.7
Second	9.3	5.8	14.7	24.6
Third	8.1	3.7	12.9	21.2
Fourth	8.0	3.4	9.0	19.2
Fifth	7.7	3.3	5.7	18.1
Sixth	7.4	2.1	5.9	17.7
Seventh	6.3	1.9	4.0	14.1
Eighth	5.8	2.9	3.3	11.3
Ninth	5.7	3.2	2.9	10.7

This study by the Children's Bureau establishes beyond all doubt the relative mortality of breast fed and artificially fed infants.

The second question to be determined is, can our breast feeding educational work really increase the practice of breast feeding enough to repay our efforts. I will first detail the actual work as done in Minneapolis, originally started by Sedgwick. There are two outstanding features of our procedure: first, the visits into the home soon after the birth of the baby; second, the teaching of breast expression. The visits into the home are made by our regular infant welfare nurses when the baby is three weeks old from birth lists received by the city health department and distributed to the nurses once a week. What the nurse does on this first visit is best told by quoting verbatim from the nurses' manual of the Minneapolis Infant Welfare Society:

Purpose of the Birth List Visit:

1. To urge every mother to nurse her baby.
2. To teach manual expression where necessary and desired.
3. To tell the importance of regular and complete physical examination and advice by a physician.
4. To judge whether mother is able to secure this advice, and if not, to urge her to attend the Infant Welfare Clinics.

When you realize that in these visits you may not have been sought, but are taking the initial step yourself; that in many cases the financial and educational standards of the family render your visit unnecessary; and that in many more, where the need, perhaps, is greatest you will find antagonism, you can see how essential it is to use your best judgment and discretion at all times. Keep always in mind that your purpose is to impress upon the mother that the basis of a healthy life for her baby rests in giving him the right start and this lies in her hands.

Introduce yourself as the "baby nurse" and explain that you came in the interest of the new baby. If the mother asks who sent you, you may say that the Infant Welfare Society calls on all new-born babies, but do *not* mention the Infant Welfare Clinics.

If you are not given a hearty welcome, but are greeted with antagonism, try to arouse interest instead of resentment, and at least form the basis for a future friendly contact. As a matter of fact, you will usually find you are welcomed, and often that your visit has been awaited. Try to make this first visit at the time when the mother is thrown on her own resources, at which time she is invariably anxious to receive help and suggestions.

Express interest in the fact that there is a new baby, and explain that you have come to urge breast feeding and regular examination and advice. Get facts as to the mother's condition and the baby's condition; notice home surroundings. sanitation, etc.

Suggested questions:

1. Is the doctor still in attendance?
2. If not calling the doctor, on what advice is the mother proceeding?
3. How is she feeding the baby? How often does she intend to consult the doctor in regard to the baby's feeding?
4. If nursing, does the baby seem to be getting enough? Is he gaining? Is he weighed?
5. If any trouble about nursing, has expression been taught, and is it being practiced?
6. If consulting her doctor, what has he advised about the baby's feeding? Is she intelligently following this advice?
7. Does the mother insist on examination with the baby undressed?

Your birth list cards should answer the above questions.

If the baby has been taken off the breast, find out reason for so doing. If the doctor is still in attendance, or has been recently, do not advise any change or teach expression without consulting him. If the mother feels that her baby is not gaining as he should and has started a complementary feeding without the doctor's advice, call the doctor yourself and ask his permission to teach expression.

In a case where the doctor has not been consulted since birth, where there is obvious inability to pay the doctor, and the mother has taken the baby off the breast and resorted to various kinds of patent foods, urge attendance at clinic.

The nurse also leaves in the home a four-page pamphlet in which the following well known facts are emphasized: That the baby be nursed at regular intervals, every three or four hours, and

that, in the early months, an artificial feeding never be substituted for a breast feeding; that if artificial feeding is necessary it be given in the smallest possible amounts and immediately after the nursing; that by far the best method to increase the mother's supply of breast milk is to completely empty her breasts after every nursing by manual expression and not by use of the breast pump. The technic of expression is as follows: The breast is grasped between the thumb and forefinger, just back of the areola, the fingers pressed firmly but gently together, squeezing a portion of the breast between them, and then with a *sudden* motion toward the nipple the milk is ejected in a stream. In the last motion the fingers do not move their relative position on the breasts, being allowed to slip between the fingers. The technic requires practice but when once learned is easily done.[2] The success of this method depends on the fact that with a weak or lazy nursing baby the breasts are not fully emptied and as a result they secrete less and less. The objection has been made that the success is entirely due to psychological suggestion to the mother, but the underlying biological principle is well recognized in the dairy industry where the thorough emptying of the cow's udder is recognized as a necessity for a continued maximum supply.

We have many examples of mothers whose milk supply has practically disappeared and who in two weeks by faithful attention to emptying the breasts, have had a full supply for their infants.

The importance of the personal visit of the nurse at three weeks of age cannot be overestimated. Mailing information does not get across. Prenatal education as to breast feeding is often forgotten. The time to bring forward our facts is at the critical moment when the mother is beginning to doubt the advisability or the possibility of nursing her baby. Originally in our scheme the cases were followed up by postcards and telephone calls every other month, and if the mother was having difficulty personal visits by the nurse were continued. Briefly, the method employed at that time was as follows: (a) birth list received daily from health department; (b) permanent cards made out from these lists and distributed to staff of nurses by districts; (c) schedule: first, visit to be made at end of second week; second, visit to be made at end of second month; third, contact circular sent at end of fourth month; fourth, contact circular sent at end of sixth month; fifth, contact circular sent at end of eighth month; sixth, contact circular sent after ninth month.

Financial considerations have forced us to discontinue this important follow-up feature of our work.

The important question remains to be decided. Do these methods perceptibly increase breast feeding? The best method is to compare our figures with those of the Children's Bureau.

Our figures were the result of an investigation in breast feeding of 3,392 babies born in Minneapolis in the first six months of 1920. Table No. 2 shows a comparison of the number of breast fed babies in the eight cities taken by the Children's Bureau and in Minneapolis with our intensive propaganda. The figures show the proportions in Minneapolis vary from 13 per cent higher in the first month to 17 per cent higher in the ninth month.

TABLE NO. 2

NUMBER OF BREAST FED INFANTS

Month of Life	Minneapolis	Eight Other Cities
First	97.9	89.8
Third	93.6	79.6
Fifth	89.8	72.8
Seventh	83.4	68.5
Ninth	78.7	64.9

We have been able to show, first, by the unassailable statistics of the Children's Bureau that the mortality among artificially fed infants is between three and four times as great as that among breast fed infants; second, that with our

2. Mother and Child Health Talks, No. 5, The Importance of Breast Feeding. E. J. Huenekens.

intensive breast feeding program in Minneapolis, we have been enabled to decidedly increase the proportions of breast fed infants.

The breast feeding propaganda as outlined above is purely an educational matter. It can be done by Infant Welfare Societies in connection with their Infant Welfare Clinics, but to obtain the best possible results the two should be separated. Infant Welfare Clinics are partly educational and partly relief work and it hampers breast feeding propaganda to be tied up with the clinics and the cooperation with private physicians is made more difficult. The ideal way to have this work done would be to have specially trained city health department nurses, who have no connection with clinics of any kind and who would carry these visits into every home in the city regardless of the economic status. This is a tremendous piece of work, which might well be fostered by one of our big national foundations until the public has been convinced of its value.

THE PLACE OF NUTRITION IN THE SCHOOL PROGRAM

LOU LOMBARD

Health Instructor in Nutrition, State Department of Public Health, Boston, Massachusetts

Read before the Child Hygiene Section of the American Public Health Association at the Fifty-second Annual Meeting in Boston, Massachusetts, October 11, 1923.

THE Commissioner of Education of one of the southern states has been quoted as saying that "teaching people how to live is the biggest and most important problem that the schools can undertake." Teaching how to live necessitates teaching the underlying principles of good nutrition. Consequently, if we accept the truth of the first statement, we acknowledge that nutrition has a most important part to play in the school life of every child.

What its relation to the rest of the school program shall be is the question under discussion in this paper. I may say, however, that due to the fact that the whole field of nutrition is such a new one, it is quite impossible for anyone at the present time to answer this absolutely.

First, let us consider the ultimate aims of a school health program. In the last analysis they are: (1) to teach every child what to eat and why, (2) to teach every child how to rest and when, (3) to teach every child how to use and care for the body and why, (4) to get every child to put these teachings into practice and to realize that these three are factors essential to good health.

Unfortunately, in many school systems the need for health teaching for all children is not recognized, and it is only the undernourished child who gets attention. This is probably due to the fact that after the war when much thought was concentrated on undernutrition, definite standards of measuring this were announced. Leading pediatricians stated that 10 per cent underweight for height indicated a condition of undernourishment. An impetus for weight surveys was created by the distribution from the Bureau of Education of the height and weight tables prepared by Dr. Wood. These surveys revealed the fact that about 20 per cent of the school children were 10 per cent or more underweight for height and about 13 per cent were borderline cases. Organizations devoted to child hygiene, impressed with the significance of these surveys, sought methods for the correction of malnutrition, and nutrition classes for underweight children became widely advertised as a solution to the problem.

From the standpoint of finance, a nutrition program which provides instruction for and reaches only the 10 per cent or more undernourished children, is